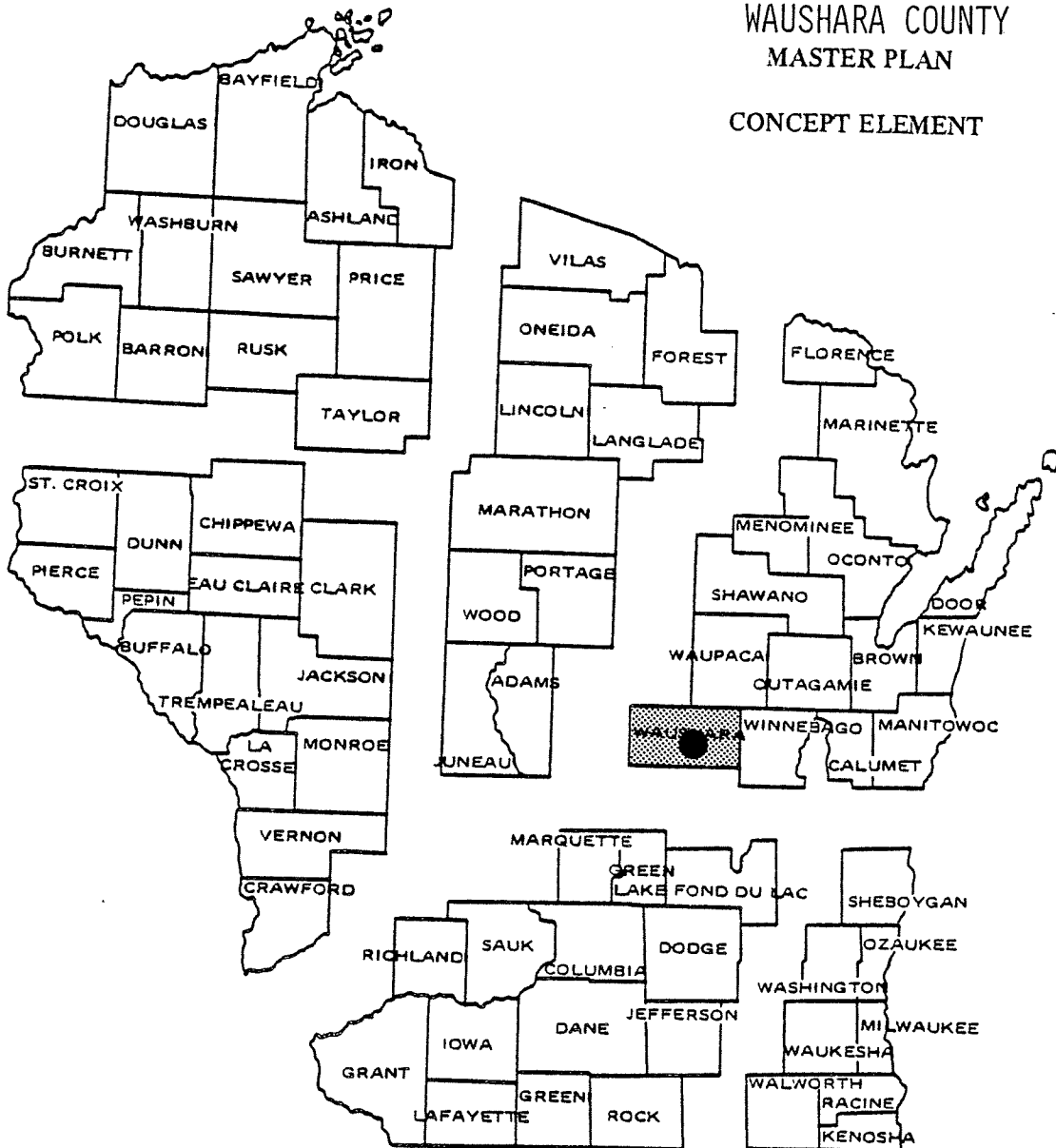


WILLOW CREEK SYSTEM FISHERY AREA
WAUSHARA COUNTY
MASTER PLAN

CONCEPT ELEMENT



Property Task Force

Leader - Mike Primising - Fish Manager
Tom Howard - Wildlife Manager
Mike Folgert - Forester-Ranger

Approved by Natural Resources Board

January 26, 1983

Date



TABLE OF CONTENTS

SECTION I - ACTIONS

	<u>Page</u>
GOALS, OBJECTIVES AND ADDITIONAL BENEFITS	1
RECOMMENDED MANAGEMENT AND DEVELOPMENT PROGRAM	1

SECTION II - SUPPORT DATA

BACKGROUND INFORMATION	5
RESOURCE CAPABILITIES AND INVENTORY	9
MANAGEMENT PROBLEMS	15
RECREATION NEEDS AND JUSTIFICATIONS	15
ANALYSIS OF ALTERNATIVES	16
APPENDIX.	

SECTION I - ACTIONS

GOALS, ANNUAL OBJECTIVES AND ANNUAL ADDITIONAL BENEFITS

Goals:

To manage the Willow Creek System Fishery Area, Waushara County, for quality trout fishing and to accommodate other compatible recreational and educational activities within the capabilities of its land and water resources while maintaining the area's esthetic setting.

Annual Objectives:

1. Provide opportunities for 3,300 angler trips for brown and brook trout with an average catch of 2 trout per trip.
2. Improve trout habitat on an average of 220 feet of stream to produce a 10% increase in the number of legal-sized fish.
3. Provide for 7,500 participant days of hunting for gun and archery deer, waterfowl, ruffed grouse, pheasants, cottontails and squirrels and 1,500 participant days of trapping for muskrats, raccoon, fox, beaver, otter and mink.
4. Manage approximately 183 acres of upland for the production of agricultural products for wildlife food patches and nest cover.

Annual Additional Benefits:

1. Produce approximately 125 cords of firewood annually.
2. Accommodate about 3,500 days of use for recreational and educational activities including: picnicking, nature study, field trips, berry and mushroom picking, hiking, cross-country skiing and snowmobiling.
3. Contribute to the habitat of a variety of native flora and native and migratory fauna, including endangered or threatened species.
4. Help maintain water quality through streambank protection and erosion control on adjacent uplands.

RECOMMENDED MANAGEMENT AND DEVELOPMENT PROGRAM

The Department recommends that the Willow Creek and tributary Cedar Springs Creek Fishery Areas (Figure 1) be combined and that they be referred to in the future as the Willow Creek System Fishery Area, Waushara County.

Currently, the acreage in state ownership (Figure 2) on the system is:

Instrument	Willow Creek	Cedar Spring Creek	Total
Fee Title	1,378.61	224.0	1,602.61
Perpetual Easement	52.30	0.0	52.30
Totals	1,430.91	224.0	1,654.91

Thus, a total of 1,602.61 acres have been acquired in fee title and 52.30 acres in easement for a grand total of 1,654.91 acres on the system, leaving 193.09 acres yet to be acquired.

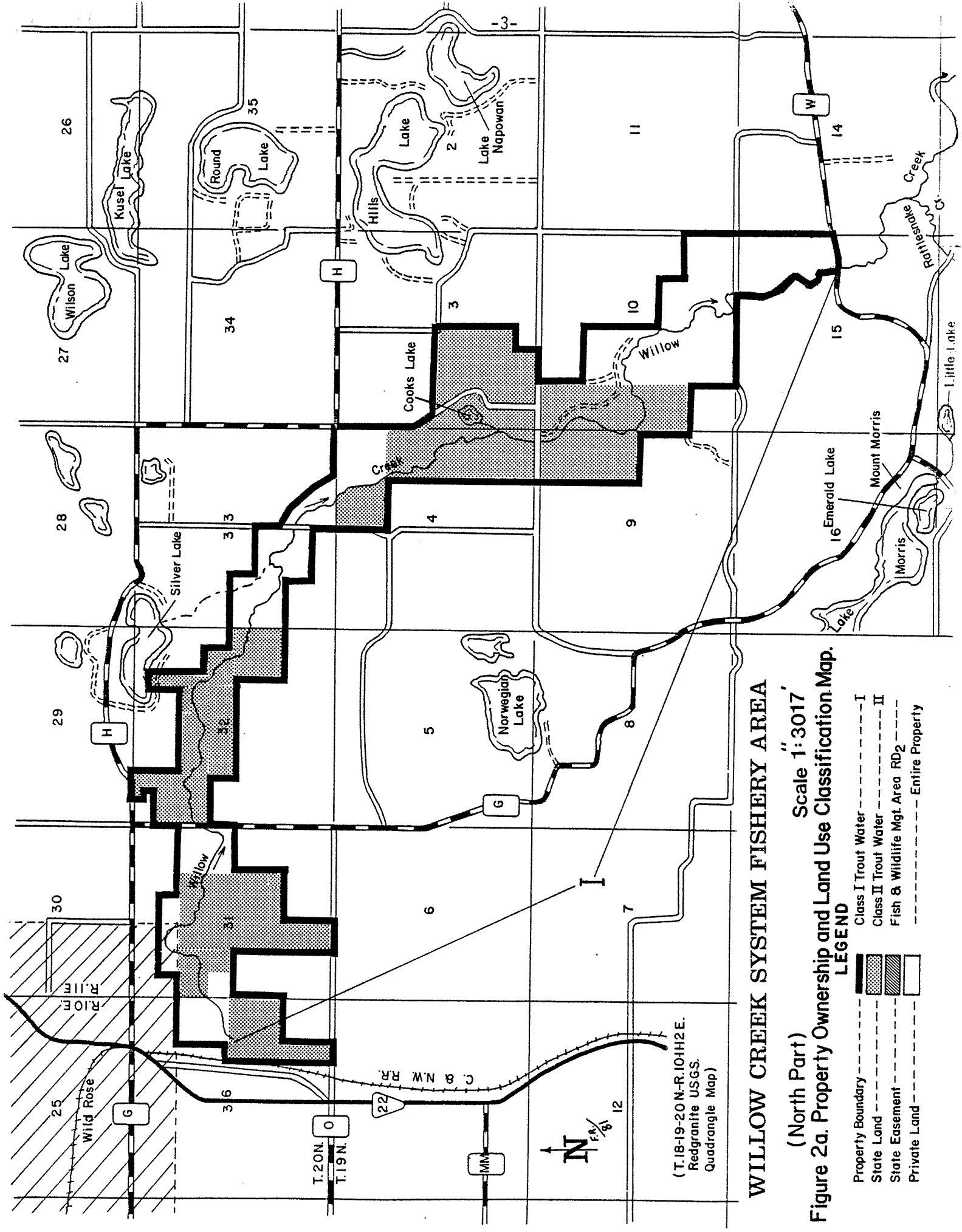
Willow Creek Fishery Area has an approved acreage goal of 1,586.0 acres and Cedar Springs Fishery Area's acreage goal is 262.0 acres and the system has a current approved acreage goal of 1,848.0 acres. In order to continue a realistic and viable acquisition program, an increase in the acreage goal of 158.91 acres is recommended. If approved, the new acreage goal for the system would be 2,006.91 acres, leaving 352.0 acres to be acquired.

Two changes of the boundary are recommended and are shown on Figure 2b. An expansion of the boundary is shown in Section 8, Township 18 North, Range 12 East, where the owner prefers to sell his entire property, including stream frontage in one parcel. Inclusion of that additional 26 acres will also allow access to the stream for equipment in future stream improvement. A boundary revision is shown in Section 9, Township 18 North, Range 12 East, deleting 17 acres that are to be traded for other lands within the boundary. Until such trade takes place, the parcel will remain attached to the fishery area, but outside of the boundary.

The cost of purchasing the 352.0 recommended acres yet to be acquired in 1982 dollars is estimated at \$300,000. Highest acquisition priority will be given to those areas adjacent to the Class I portions of trout water including the major spawning grounds and spring areas that are the life-blood of the system.

Trout stream habitat development (Figure 3) funded with trout stamp monies will play a major role in providing adequate future trout populations to offset increased fishing pressure. Within the next 6-year period, it is anticipated that at least 1/4 mile of new development will be proposed. This will insure a continued high level of production and increase the harvestable crop in the immediate vicinity by a minimum of 10%. Costs in 1982 dollars is estimated at \$36,960, or an annual average of \$6,160. As new properties are purchased, habitat development activities will be expanded based on needs identified by survey practices and evaluation procedures.

Maintenance will be carried out on approximately 2 miles of instream habitat devices now in place. Vegetative maintenance will continue on approximately 4.5 miles of stream to encourage marsh-meadow type growth at the stream edge. The maintenance of property line fences, parking lots and boundary posting will be a continuing program.



WILLOW CREEK SYSTEM FISHERY AREA

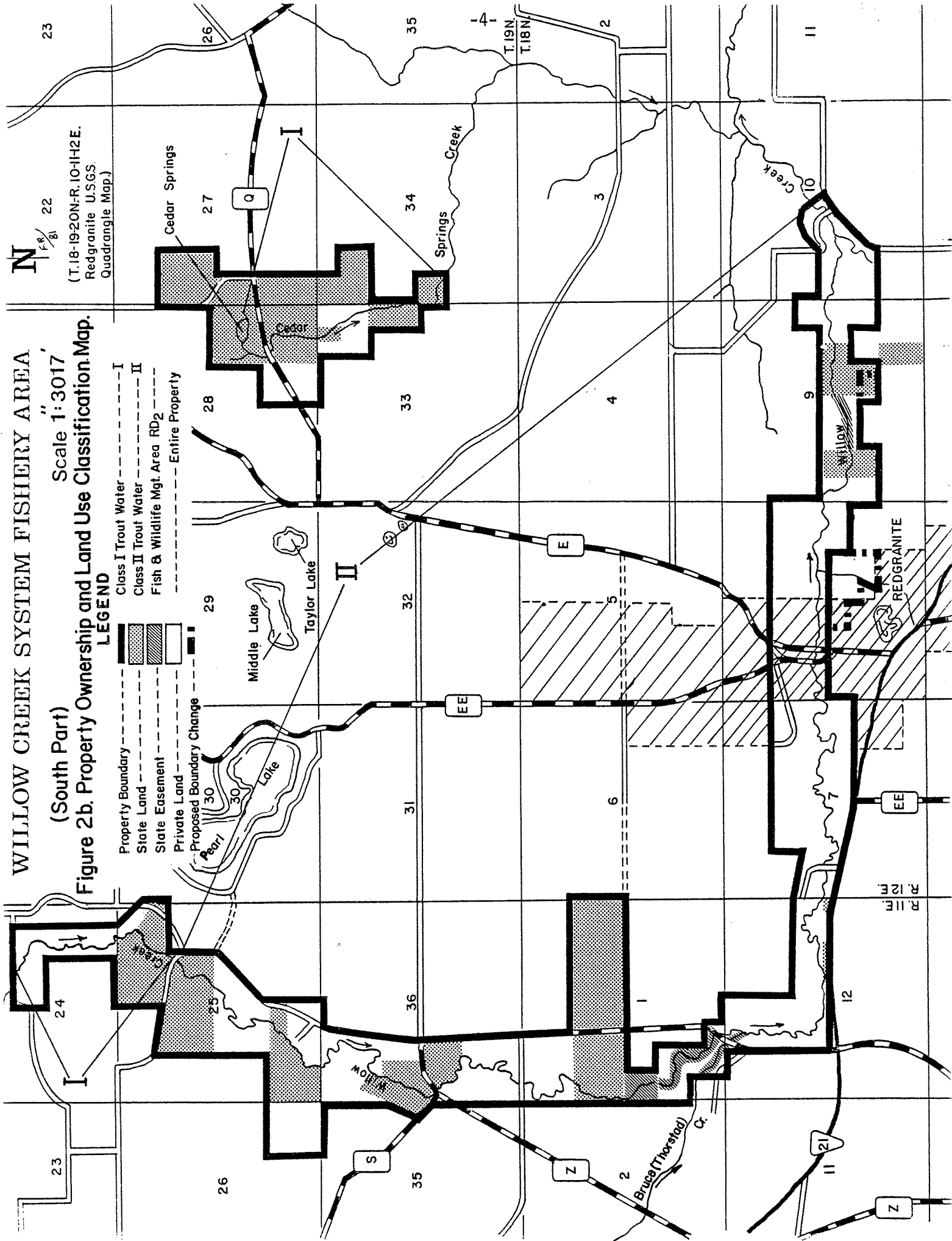
(South Part)

Scale 1"=3017'

Figure 2b. Property Ownership and Land Use Classification Map.

LEGEND

- Property Boundary ----- I
- State Land ----- II
- State Easement -----
- Private Land -----
- Proposed Boundary Change -----
- Class I Trout Water -----
- Class II Trout Water -----
- Fish & Wildlife Mgt Area RD2 -----
- Entire Property -----



Two current snowmobile trails (Figure 3) will continue to be maintained through land use agreements with the county association. Any proposed additions or change in routes will be weighed against the impact on the resources and compatibility with public interests and uses.

Cross-country skiing will be allowed although no established trail is currently offered on the fishery area. A trail on county-owned and private lands includes a one rod wide corridor on State property in Sections 9 and 10, Township 19 North, Range 11 East. No problems are foreseen with the present situation.

The lands will be open to public hunting, trapping, educational tours and other recreational activities except for 52.30 acres under easement for fishing access only.

The development of accesses will be provided as needed on new land purchases. Presently, 16 parking and access sites have been provided. Vehicular traffic will be kept to a minimum in an effort to maintain an enjoyable outdoor experience.

Wildlife management actions that will be considered include expanding food and cover by planting, thinning, timber cutting and sharecropping. At this time 183 acres of land are sharecropped to provide food patches, maintain openings and provide nesting cover, and this program is expected to continue.

All areas proposed for development will be examined for the presence of endangered and threatened wild animals and wild plants. If listed species are found, development will be suspended until the District Endangered and Nongame Species Coordinator is consulted, the site evaluated, and appropriate protective measures taken.

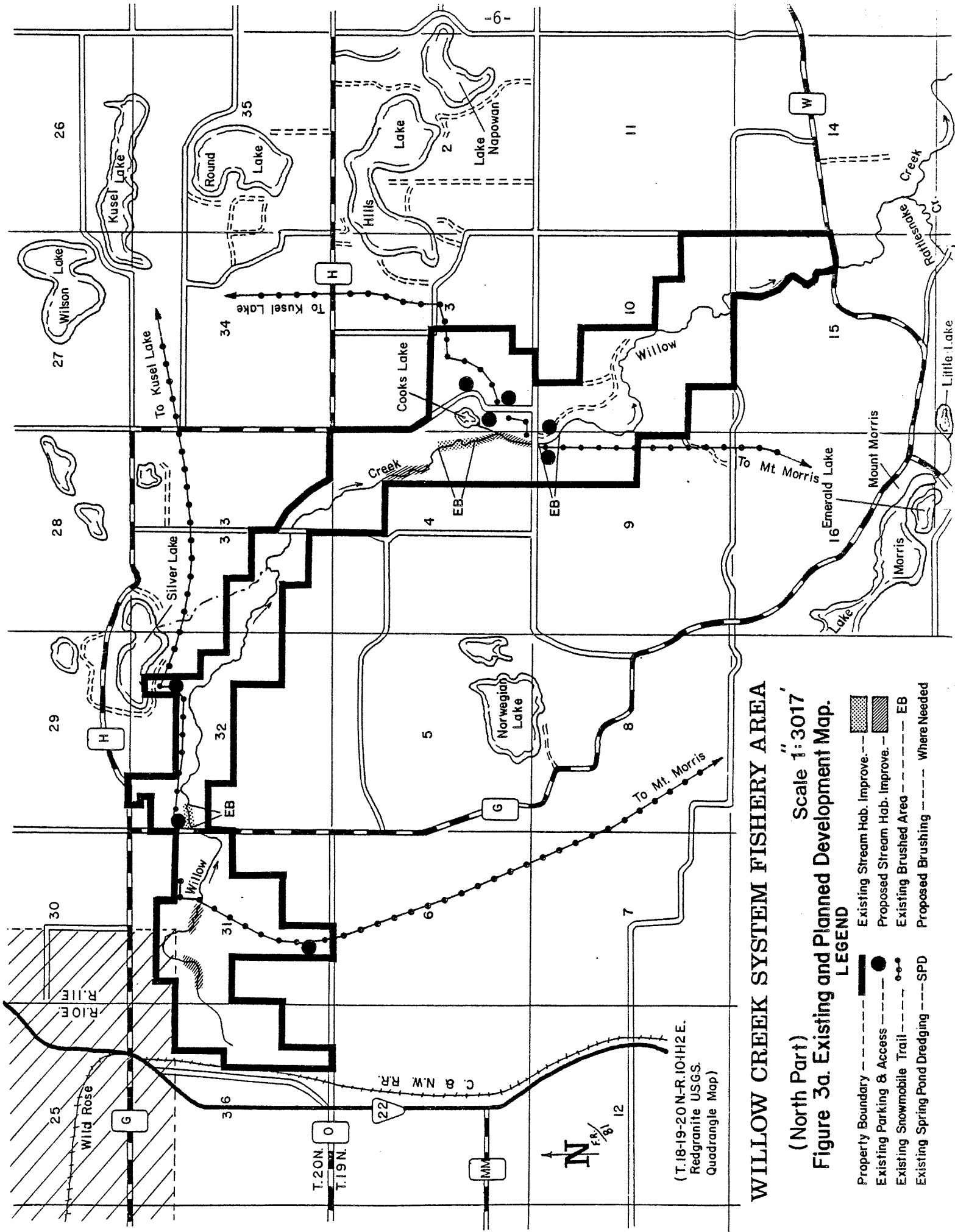
A complete biological inventory of the property will be conducted as funds permit. Additional property objectives may be developed following completion of such an inventory.

SECTION II - SUPPORT DATA

BACKGROUND INFORMATION

History of Property Creation

The Willow Creek Fishery Area was proposed to the Wisconsin Conservation Commission and approved as an acquisition project in 1953. The acreage goal at that time was 2,934.55 acres. Acreage goals were periodically reduced within the property boundary to reflect availability of funds and to comply with a long-range, statewide ownership goal of 1.3 million acres. The current acreage goal of 1,586 acres was established in 1969 by the Tyler-Helland Report. A total of 1,378.01 acres are now in fee title ownership within this portion of the system and are used primarily for public hunting and fishing. There are an additional 52.30 acres under perpetual easement agreement and the use of easement lands is restricted to public fishing.



WILLOW CREEK SYSTEM FISHERY AREA

(North Part)
 Figure 3a. Existing and Planned Development Map.
 Scale 1"=3017'

- LEGEND
- Property Boundary - - - - -
 - Existing Parking & Access - - - - -
 - Existing Streambed Improvement - - - - -
 - Proposed Streambed Improvement - - - - -
 - Existing Snowmobile Trail - - - - -
 - Proposed Spring Pond Dredging - - - - -
 - Existing Stream Hab. Improve. - - - - -
 - Proposed Stream Hab. Improve. - - - - -
 - Existing Brushed Area - - - - -
 - Proposed Brushing - - - - -
 - Where Needed - - - - -
 - SPD - - - - -

(T.18-19-20N.-R.10-11E.
 Redgranite USGS.
 Quadrangle Map)

WILLOW CREEK SYSTEM FISHERY AREA

(South Part)

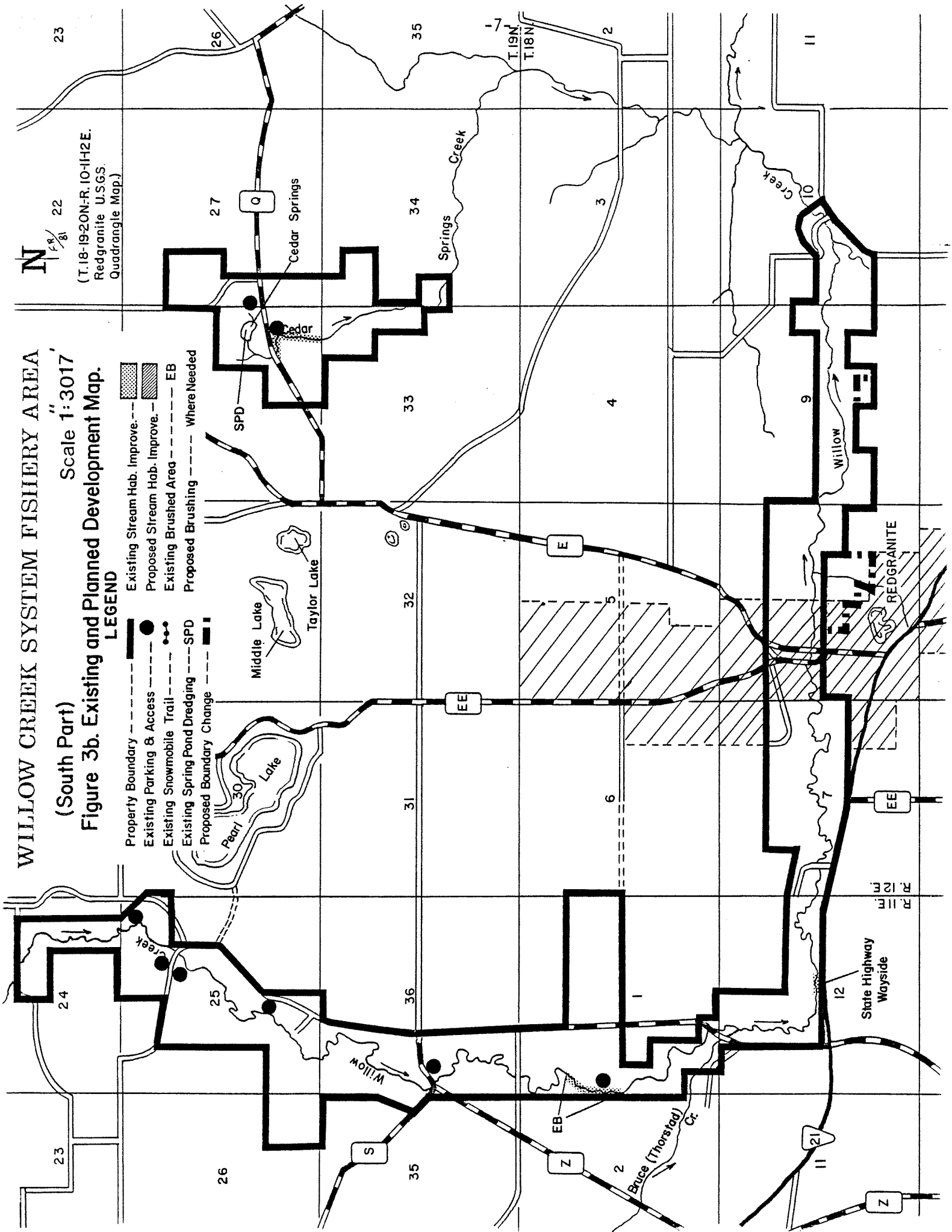
Scale 1:3017

Figure 3b. Existing and Planned Development Map.

LEGEND

- Property Boundary ———
- Existing Parking & Access ———
- Existing Snowmobile Trail ———
- Existing Spring Pond Dredging ———
- Proposed Boundary Change ———
- Existing Stream Hab. Improve. ———
- Proposed Stream Hab. Improve. ———
- Existing Brushed Area ———
- Proposed Brushing ———
- Where Needed

- EB
- SPD



The Cedar Springs fishery area boundary was activated in 1958 pursuant to Conservation Commission approval. The acreage goal was also established in 1969 by the Tyler-Helland Report and has remained constant at 262 acres. A total of 224 acres is currently under fee title ownership.

Current Approved Willow Creek - Cedar Springs Creek Acreage Summary:

<u>Total Acreage Goal</u>	<u>Acres Controlled</u>	<u>Acres Remaining</u>	<u>% Completed</u>
1,848	1,654.91	193.09	89.6

There are approximately 8 miles in public ownership on Willow Creek and 0.7 mile on Cedar Springs Creek plus 0.7 acre on the headwaters of Cedar Springs Creek, and the entire 5.1 acre perimeter of Cooks Lake.

Current Management Activities and Uses

Current management activities consist of land acquisition, trout stocking (1,900 annually in Class II portions of the stream), fence maintenance (160 rods), cattle watering area maintenance (2), and agricultural land use agreements (182 acres). Past activities include the development of 16 access and parking lots, wildlife shrub plantings (1.5 million stems), instream habitat improvement (9,750 feet), spring pond dredging (0.65 acre) and pine plantings (110 acres).

Some of the habitat improvement activities date back to the 1950's. The headwaters spring pond dredging project on Cedar Springs was finished in 1979.

The waters of this system are very popular for trout fishing with angling pressure particularly heavy during the first month of the season. Sections of the Willow provide fly-fishing opportunities during the annual mayfly hatch. Fishing pressure is reduced to a moderate level by the end of June and continues to decline toward the end of the season. Based on creel census data and general observations, it is estimated that fishing pressure on the entire stream averages 150-200 man-days per mile. Fishing pressure on state-owned property is greater and approaches 300-500 man-days per mile.

Lands within the boundary are heavily hunted during the deer-gun season. Hunting pressure on state-owned property can be 2.5 times that of surrounding private lands. Hunting pressure has been documented at well over 50 hunters per square mile on this fishery area on opening weekend. Small game hunting and bow hunting for deer are also popular recreational activities.

Other uses of the fishery area are for trapping, waterfowl hunting, picnicking, kite flying, nature study, berry and mushroom picking, hiking, cross-country skiing and snowmobiling.

The 2 snowmobile trails that cross the fishery area are groomed, posted and maintained by the county snowmobile association in cooperation with the county parks office.

Occasional field trips are conducted for local high school ecology and biology classes.

Firewood permits were issued in the past on a first come basis. Such requests have increased to the point where demand now exceeds supply.

RESOURCE CAPABILITIES AND INVENTORY

Soils, Geology and Hydrology

The soil types range from sand to sandy-loam which are generally light in color. The subsoil consists of sand sandy-loam occurring from 6 inches to 2 feet below the surface. These soils are only fair for agricultural purposes, depending on annual rainfall.

The watershed topography is hilly and rolling. The sandy soils readily allow water from precipitation (annually about 30 inches) to percolate into the ground and become part of the groundwater system. This continual recharge of groundwater reserves account for the spring flow in and along the stream resulting in fairly stable stream flows.

Fish and Wildlife

The principal fish species found in the waters of the Willow Creek System include brown and brook trout, common sucker, hog sucker, mottled sculpin, common shiner, brook lamprey, golden shiner, Johnny darter, blacknose dace and creek chub. A few crappies, bullheads, northern pike, perch and rock bass are present and probably originate from warmwater lakes and ponds that drain into the system.

Amphibians sampled on fish surveys include leopard and green frogs, spring peepers and mudpuppy. Turtle species documented as present are snapper and painted types.

The primary sport fishery in Willow Creek is for brown trout; whereas, the brook trout is the only species present in Cedar Springs Creek. The Class I section of Willow Creek (Figure 2) provides a quality fishery for naturally produced trout while the Class II portion is stocked each spring with 1,900 yearling brown trout to supplement natural reproduction. No trout are stocked in Cedar Springs Creek.

The major wildlife species on the fishery area include white-tailed deer, squirrel, cottontail rabbits, ruffed grouse, mallards, teal, wood ducks, raccoon, muskrats, fox, beaver, otter and mink. A variety of nongame birds and animals inhabit the area both seasonally and permanently.

Pheasant were stocked on the fishery area in the past, but this practice was discontinued due to its artificial nature and the low quality of the hunting it provided. Habitat types are not favorable for pheasants. Releases from local licensed game farms may account for an occasional bird on public lands.

It is recognized that streambank clearing and forest cuttings produce tradeoffs in animal species, with some being helped, some not. Every effort will be made to minimize harmful effects to game and nongame species.

Vegetative Cover

A forest reconnaissance survey of state-owned lands within the boundary of the fishery area was conducted in 1982. Cover types are shown on Table 1 in detail, and in general on Figure 4, and consist of 1,638 acres of which 988 can be considered commercial forest lands.

Table 1. 1982 Forest reconnaissance cover types on the Willow Creek System Fishery Area*

<u>Type</u>	<u>Acres</u>
Oak	547
Swamp Hardwoods	213
Aspen - Birch	42
Pine Plantation/Windbreaks	125
Tamarack	61
Northern Hardwoods	<u>10</u>
TOTAL	998
 <u>Other Types</u>	 <u>Acres</u>
Open Fields	390
Marsh/Lowlands brush	157
Water	40
Unproductive	33
Parking Areas/Trails	<u>20</u>
TOTAL	<u>640</u>
Grand Total*	1,638

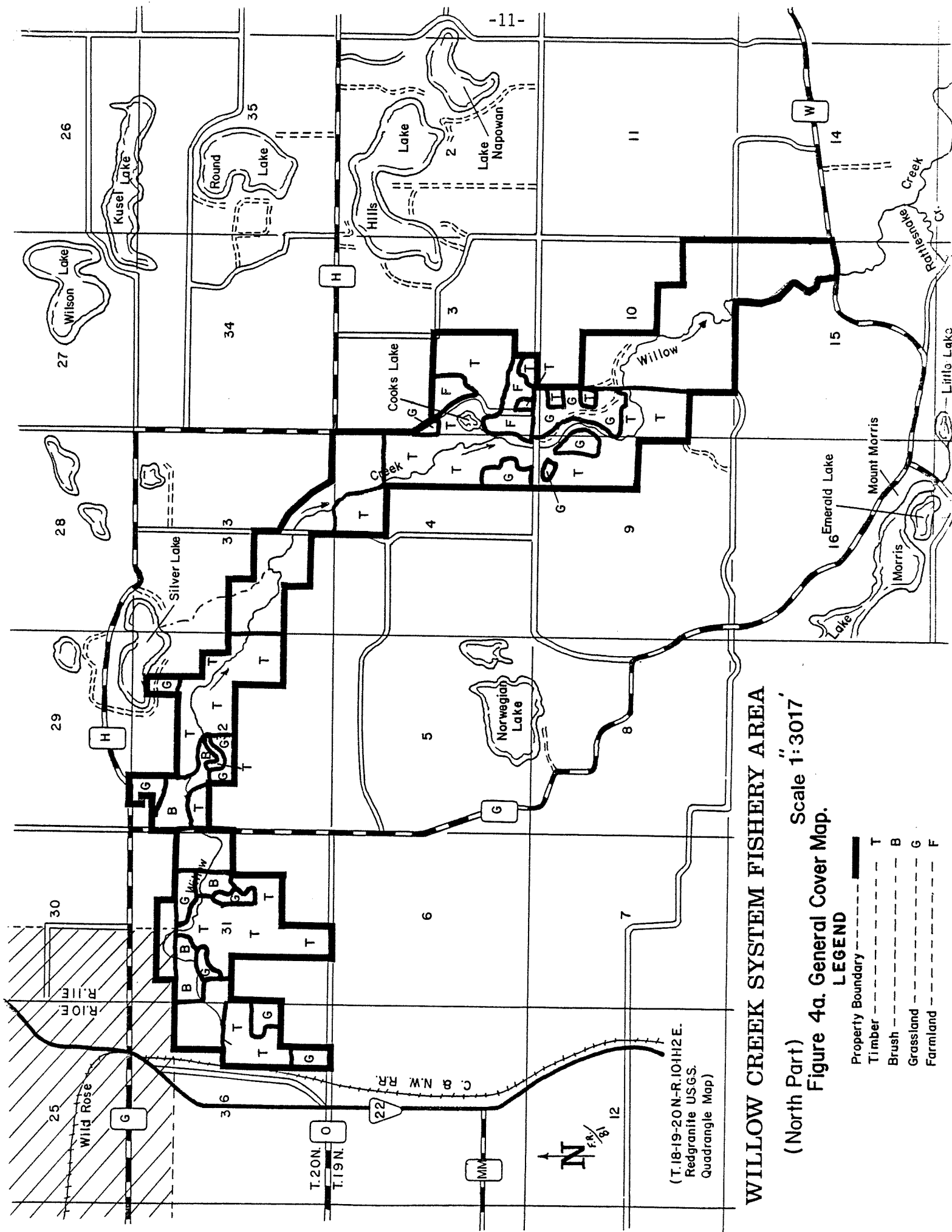
*Does not include a 16.5-acre plot recently acquired that has not had a forest reconnaissance to date.

There are considerable defects among the oak timber types and include oak wilt and trunk deformities. Although an occasional timber sale is possible, commercial use is primarily related to firewood sales and salvage operations of dead and dying trees. Cuttings to provide piling and planking materials for stream improvement devices is a future use of the oak timber types.

Undergrowth in the oak types consists of thinly scattered patches of hazelbrush, raspberry, young oak and cherry. They provide a diversity of habitat conditions for a variety of game and nongame species of birds and animals.

Small patches of aspen of varying size are found near ravines and low spots within the oak type.

There are 110 acres of pine plantation consisting of red and white pine interspersed with jack pine. The majority of plantation plots are less than 10 acres in size. Where possible they will be managed on an even-age basis to produce saw timber on a 90-year rotation. Some windbreak plantings of pines are also present on the property.



WILLOW CREEK SYSTEM FISHERY AREA

(North Part) Scale 1"=3017'

Figure 4a. General Cover Map.

- LEGEND**
- Property Boundary ———
 - Timber ——— T
 - Brush ——— B
 - Grassland ——— G
 - Farmland ——— F

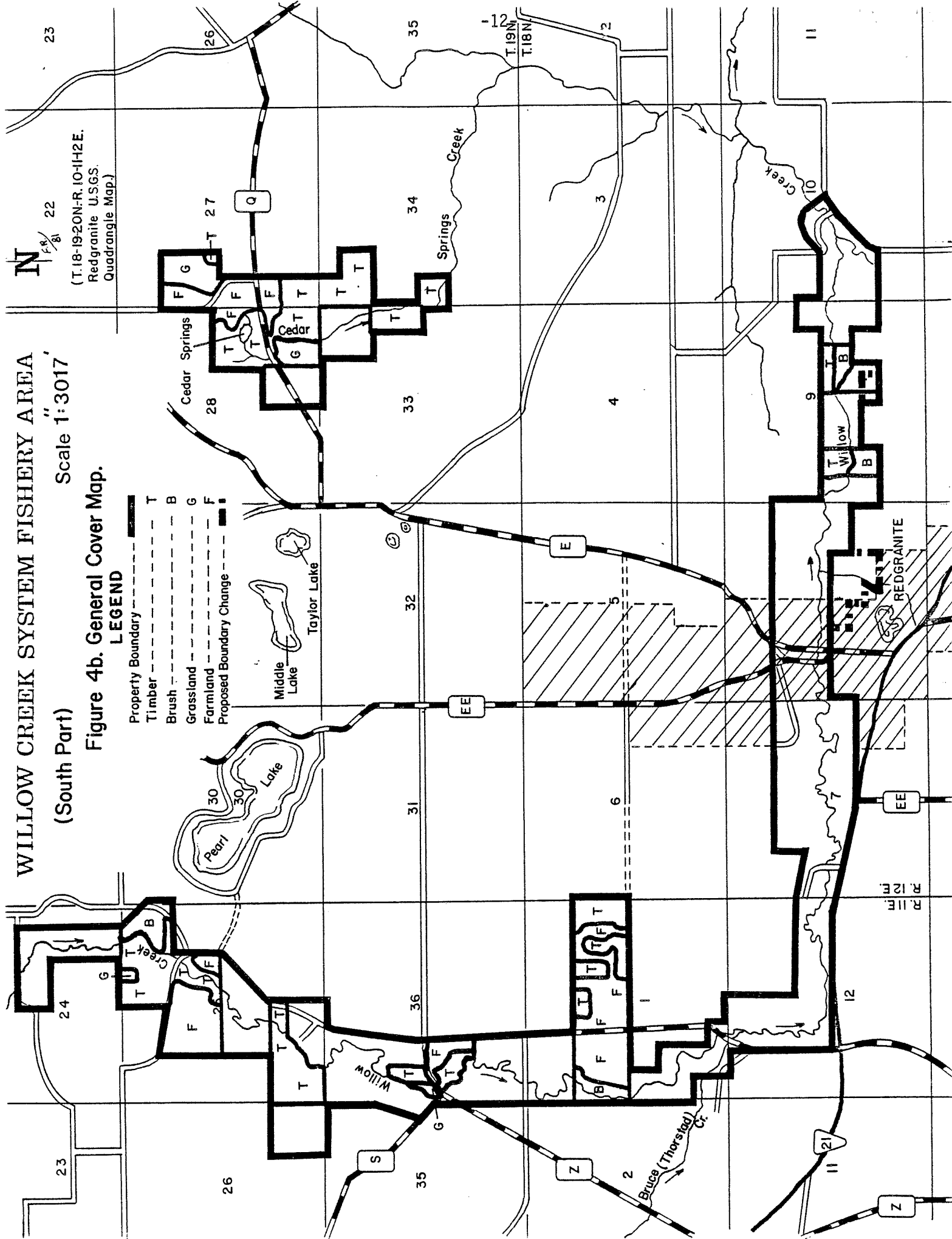
(T.18-19-20N-R.101H2E.
Redgranite USGS.
Quadrangle Map)

WILLOW CREEK SYSTEM FISHERY AREA (South Part)

Figure 4b. General Cover Map.

LEGEND

- Property Boundary - - - - -
- Timber - - - - - T
- Brush - - - - - B
- Grassland - - - - - G
- Farmland - - - - - F
- Proposed Boundary Change - - - - -



Wildlife shrub plantings (1.5 million stems) have been made. The mediocre success of the shrub planting program is attributed to the drought prone, low fertility characteristics of the soil. Ninebark and mixed crabapple have provided the most positive results.

Endangered and Threatened Species

No endangered or threatened species of fish, amphibians, molluscs, mammals, birds, reptiles or wild plants are known to inhabit the area.

Water Resources

Willow Creek is the main stream within the fishery area (Tables 2a and 2b), and it originates in northcentral Waushara County and then flows in a southeasterly direction. The headwaters are located in Section 36, Township 20 North, Range 10 East. A small intermittent outlet from Little Silver Lake enters the Willow in Section 33, Township 20 North, Range 11 East. A small outlet from Cook's Lake junctions with the Willow in Section 4, Township 19 North, Range 11 East.

The first major tributary stream, Rattlesnake Creek, enters the Willow in Section 14, Township 19 North, Range 11 East, outside of the boundary. The Rattlesnake is the outlet from a 163-acre flowage known as Lake Morris and it contributes an estimated 25-30 percent of the flow of the Willow below their junction.

Summer temperatures in excess of 80° and near-freezing winter temperatures have been recorded in Rattlesnake Creek which affect the waters of the Willow below the junction of the two streams. Lowered water quality (temperatures) is a major reason for a drastic decline in natural reproduction below the junction, and the Willow then becomes Class II trout water a short distance downstream.

The next stream entering the Willow is Bruce (Thorstad) Creek in Section 12, Township 18 North, Range 11 East. This stream is a Class II trout water supporting a brown-brook trout fishery.

Immediately upstream from the junction of Cedar Springs and Willow Creek is the outlet of a small, unnamed, warmwater stream. This stream is of no significance in maintaining the integrity of the system. The last stream to enter the Willow is Cedar Springs Creek in Section 10, Township 18 North, Range 12 East. Cedar Springs Creek originates from a natural spring pond in Section 28, Township 19 North, Range 12 East and flows in a southerly direction. Several tributary forks contribute to the flow before its confluence with the Willow.

The trout water portion of the Willow Creek system ends above the Auroraville flowage. Below Auroraville, the Willow is a warmwater stream that enters Lake Poygan, a part of the Wolf-Fox River system which ultimately flows into Green Bay, Lake Michigan, and the Great Lakes drainage.

The waters of both the Willow and Cedar Springs are cool, clear and alkaline, and conducive to good to excellent trout productivity. The Class I waters of Willow Creek can normally be expected to support a minimum of 80 pounds of trout per acre. The Class I water of Cedar Spring support approximately 60 pounds of trout per acre.

Table 2a - Streams of the Willow Creek System Fishery Area, Waushara County.

Stream Name	Within the Area Only Length in Miles		Total Length of Stream in Miles
	Class I	Class II	
Bruce (Thorstad) Creek	0.27	0.00	4.95
Cedar Springs Creek	1.59	0.00	3.65
Willow Creek	8.10	9.60	33.87
Totals	9.96	9.60	42.47
<hr/>			
Fishery Area Total	19.56		

Table 2b - Lakes or Ponds Within the Willow Creek System Fishery Area, Waushara County.

Name	Acres	Maximum Depth (ft)	Total Alkalinity	pH
Cedar Springs	1.5	8.0	190	7.7
Cook's Lake	5.1	6.5	117	8.8
Total	6.6			

Historical and Archaeological Features

The State Historical Society reports that Waushara County has not been surveyed for properties of historical, archaeological or architectural features. A prehistoric campsite was reported to the Society in the early 1900's as being located in Section 32, Township 20 North, Range 11 East. Before any activities take place that disturb the soils or structures within the boundary of the fishery area the Department of Natural Resources will consult with the Historical Society for advice.

Land Use Potential

The Willow Creek System Fishery Area is best suited for classification as a resource development area because of its size, location, physical and biological features and recreational use. Past activities involved agricultural practices, spring pond dredging, stream habitat work and various others which have altered the original characteristics of the area. All lands within the area should be classified as a fisheries and wildlife management area (RD₂) and are shown on Figures 2a and 2b.

MANAGEMENT PROBLEMS

Vegetation Problems

Dead and dying elm and ash trees on adjacent lands are falling into the stream causing obstructions, slowing the current and causing bank erosion and siltation.

Oak wilt disease is a common problem. In some areas problem growths of speckled tag alder shade aquatic vegetation and reduce the production of basic food organisms (stonefly, mayfly, caddisfly larvae). Bank erosion results from excessive brush growth as grasses and sedges are unable to compete. Lack of suitable trout habitat cover in the form of pool and bank cover restrict production of fish. Habitat development work is needed on problem areas.

Camping, Litter and Other Unauthorized uses

Illegal overnight camping and litter are problems at several access parking areas.

The unauthorized use of 4-wheel drive vehicles causes erosion problems and other environmental damage habitat deterioration. Some of the measures taken to stop these activities are less than esthetically pleasing (deep trenches, pole barriers, and earthen barricades).

High Hunter Use

Extremely high hunter density during the deer-gun season and the overflow of hunters to adjoining private lands reduces the quality of the hunt. The same applies for fishing pressure during the early part of season.

Vandalism

Vandalism of signs is a continuous problem. From 25 to 33 percent are destroyed by vandals annually.

Subdivision of Lands

Platting and subdividing lands for private homes and recreational cottages is a common practice in Waushara County. Demand for water frontage is particularly keen. This type of development is incompatible with goals and objectives of providing public use areas.

RECREATIONAL NEEDS AND JUSTIFICATIONS

There will be future increased emphasis and a need for outdoor recreation in the State of Wisconsin. Any land purchased by the Department is acquired on behalf of the State and is held in public trust for the benefit of the State, its natural resources and all its citizens as well as for out-of-state visitors. The acquisition and development of public lands in this part of the State will help meet these needs and is essential to energy considerations and reasonably priced public recreational activities in the decades ahead. By 1990, some recreational opportunities may be limited in central Wisconsin without intensive management or increased acquisition.

According to the 1982 Wisconsin Blue Book, the 1980 population of Waushara County was 18,526, while the population of the adjacent six counties totalled 275,482 persons.

Recreational areas like the one covered in this master plan are centrally located and comparatively near major metropolitan population centers including the Fox River Valley (Oshkosh to Green Bay), Madison, Milwaukee and Chicago. At least 3 million people live within a few hours travel time and are only a tank of gas or less away from public recreational areas in Waushara County.

Creeel census checks have documented the fact that people from these population centers are attracted to the quality trout waters located in the county.

ANALYSIS OF ALTERNATIVES

Do Nothing

Subdivisions would eventually result on suitable stream frontage within the property boundary and trespass restrictions would deny the general public to suitable fishing frontage and access sites along a popular navigable waterway.

Riparian owners have little incentive to maintain or improve habitat conditions. Private alterations of the environment are usually based on personal short-term monetary gains and desires. In most instances, these actions are not compatible with long-range resources management goals.

Habitat preservation and improvement activities such as streambank riprap, instream device construction, streambank vegetation control, and alleviating chronic upland erosion problems are expensive and private landowners usually do not get the needed work done. The end result leads to a general deterioration of a variety of habitat types.

Past investments in land acquisition and development were not adequately protected because of disjointed land ownerships. The entire system must be considered and in some way controlled to protect, maintain and improve it for future generations.

The open marsh-meadow type of stream edge will revert to brush through plant succession, degrading the stream habitat for trout by reducing bank undercuts, pool cover and materially reducing invertebrate food production. Dead and dying trees can be expected to fall into the water and thus destroy habitat and causing difficult fishing conditions. Habitat conditions in the lower reaches of the system could deteriorate to the point where trout would no longer survive.

A do nothing approach would mean increased pressure and public use of the existing areas under public ownership. Future users would find the present area overcrowded and the quality of the outdoor experience reduced.

Expanding Fishery Area

The long-range goal of public ownership of all lands within the original approved property boundary (established in 1953) remains a desirable objective. This master plan will recommend that acreage goals be increased commensurate with the future expanding statewide acreage goals and funding sources necessary to accommodate the projected increases in the demand for recreational opportunities. Public ownership of lands is the one sure way to provide reasonably costing recreational opportunities for the majority of the State's citizens.

Reducing the Fishery Area

Attainment of goals and objectives would be impossible if the area was reduced. This would be contrary to this agency's major function of preserving and perpetuating renewable resources and providing user opportunities associated with them.

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Appendix - Comments from outside reviewing agencies.

A number of comments were received from outside reviewing agencies. Their comments, and DNR responses, if necessary, follow:

Dr. Tom Poullette, Central Wisconsin Chapter, Trout Unlimited, P. O. Box 358, Wautoma, WI 54982.

Page 9 -Map Re: Cook's Lake: Cook's Lake which appears to be part of the Willow system and on state-owned land used to be a natural spring hole. It has silted in to the point of uselessness - though it does have an outlet flow into Willow Creek. The thought of many Central Wisconsin Trout Unlimiters are as follows: 1. Could this spring be pumped?

DNR response: Lake could be pumped. However, warm surface waters would continue to flow out the very sluggish outlet stream without improving the quality (temperatures) of the receiving waters of the Willow. A put and take fishery with annual stocking would provide a short-term artificial fishery that would not justify the costs of the dredging project.

2. If so, and the natural springs again were opened, would or could it be an asset to the river system?

DNR response: Very conjectural and speculative. Dredging in most cases does not increase volume of flow.

3. Would the colder water of the springs possibly drop the water temperatures downstream a degree or two and materially be an asset to the stream? If pumping were possible, we feel it would not only add a recovered spring hole for fishing, but help the river system.

DNR response: See answers on DNR response above.

Stan Nichols, Wisconsin Geological and Natural History Survey, Madison, WI.

Page 9, Line 18 - should read "sand to sandy loam."

DNR response: Agreed.

Page 15. Vandalism - part of the problem could be avoided by not putting up so many signs.

DNR response: Disagree - we have an obligation to mark public use areas so the general public can find them and to control public use once the public is on the land(examples - parking lots, closed to traffic, boundary signs, etc.).

Forest Stearns, Chairman, Scientific Areas Preservation Council.

We have reviewed the Willow River Fishery Area Master Plan and note one area of interest to our program.

The Cedar Springs site was inventoried several years ago and found to be a natural area of state significance. However, the spring was at that time being dredged to improve the trout fishery. We believe that the surrounding swamp conifer type was not seriously impacted by the dredging. Therefore, we recommend that further alternation of the spring pond, outlet stream and swamp conifer forest area be delayed until stabilization of the area disturbed by dredging occurs and the site's natural quality is then re-evaluated. Perhaps a classification of habitat preservation would be appropriate until further evaluation occurs.

DNR response: Disagree - If more of the springs area is acquired, fish management will recommend further dredging. Stream improvement maintenance and development work will be proposed for the outlet stream below the spring pond area.

Cynthia Morehouse, Director, Bureau of Environmental Analysis and Review,
Department of Transportation, P. O. Box 7916, Madison, WI 53707.

We have reviewed the Concept Element of the Master Plan for the Willow Creek Fishery Area in Waushara County and offer the following comments:

1. To avoid potential conflict when developing fishery area accesses or whenever your acquisitions abut the right of way of roads on the State Trunk Highway System, we request that you coordinate with:

Transportation District #4
D. L. Cronkrite, Director
1681 Second Avenue
Wisconsin Rapids, Wisconsin 54494
Telephone (715) 421-8300

DNR response: We do this now.

2. We recommend that you coordinate new fishery area accesses and acquisition activities abutting township or county roads with the appropriate officials in those levels of government.

Thank you for the opportunity to review and comment on this document.

DNR response: We do this now. In some cases the local levels of government (County Highway Department) do the work for us.

William Schultheis, Chairman, Wild Resources Advisory Council.

Willow Creek Fishery Area is of very limited interest to the resource council and it does not appear that there is any potential for wild resource designations. I would like to make the following comments or raise a question or two.

1. Having never seen the area, I will ask the following: Why the small stream from Silver Lake to Willow Creek in Section 33 and Rattlesnake Creek are not included in the boundaries. Also, the creek frontage in Sections 14 and 15.

DNR response: Rattlesnake Creek and the small stream from Silver Lake are not trout streams - Willow Creek in Sections 14 and 15 is not considered important to maintaining the integrity of the more important segments of the system.

2. Pleased to note that someone is concerned about upland erosion.
3. Page 10. Is it worth while for firewood and timber cutting sales. It seems the cost of passing paper and control will be greater than the timber revenues.

DNR response: The Department is obligated by policy to provide this service (firewood sales) for home heating use if the activity is compatible with the overall objectives of resource management and recreational use. Little or no commercial timber sales are anticipated within the boundary of the fishery area.

4. The last sentence on page 17, first paragraph could be expanded.

In general I thought the plan was good and agree with their overall philosophy.

DNR response: Disagree - believe paragraph is adequate as written.

Roy C. Willey, Jr. Executive Director, East Central Wisconsin Regional Planning Commission, Menasha, WI 54952.

The East Central Wisconsin Regional Planning Commission has reviewed the Willow Creek Fishery Area Master Plan and has the following comments:

1. The Willow Creek Fishery Area acquisition and development is consistent with regional plans for the Willow Creek area in Waushara County.
2. The Commission recommends consideration of potential cross-country ski trail use for the Willow Creek segment between Mount Morris Hills and Wild Rose. This area has high potential for recreational (cross-country skiing) uses in light of existing deficits of public cross-country ski trails in the Fox Valley area. We recommend a trail use agreement in partnership with Waushara County be investigated. Partial trail development on existing state land could be addressed in the immediate future with total trail development after complete acquisition.

Thank you for the review opportunity. Please inform us of any assistance the Commission can provide in plan implementation.

DNR response: We presently have a land use agreement with the county parks office that involves a cross-country ski trail that starts at Mount Morris County Park, crosses private lands and includes a one rod wide corridor on Willow Creek state property in Sections 9 and 10, Township 19 north, Range 11 east. This trail parallels somewhat the snowmobile trail shown on Figure 3a.

We would consider extending such an agreement with the county toward the Village of Wild Rose. Expansion proposals will be worked out under land use agreements with the county. Minor brushing, posting, maintenance and liability would be the responsibility of county government.

(For All DNR Type II Actions, Except Regulatory)

FORM 1600-2
REV. 1-78

DEPARTMENT OF NATURAL RESOURCES

DISTRICT OR BUREAU

DNR NUMBER

#1190

ENVIRONMENTAL IMPACT ASSESSMENT SCREENING WORKSHEET
(Attach additional sheets if necessary)

SEP 02 1982

Title of Proposal: Willow Creek System Fishery Area Master Plan (conceptual element)

Location: County Waushara
Township 20,19,18 North, Range 11,12,10 East, ~~xxx~~
Section(s) Various ones - see attached map
Political Town Rose, Springwater, Mt. Morris, Marion, Warren

Project:

1) General Description (overview)

Manage the Willow Creek System fishery area, Waushara County for quality trout fishing and accommodate other compatible recreational and educational activities within the capabilities of the land and water resources while maintaining the area's esthetic setting. Actions associated with this project are continued acquisition of lands within approved boundarys, habitat improvement to enhance living conditions for trout species, fish stockin maintenance of fence, posting, cattle watering areas and parking lots. Sharecropping of suitable lands.

2) Purpose and Need (include history and background as appropriate)

Natural Resources Board policy dictates that each department property of significant public use or interest shall have a master plan prepared. The plans establish immediate and long range goals for the use of these properties. This assessment addresses the impact the master plan will have on the environmental associated with the Willow Creek system.

Authorities and Approvals: 23.09

- 1) Statutory Authority to Initiate Master plans need approval through channels to final approval by Natural Resources Board
- 2) Permits or Approvals Required
- 3) Participants notified of above requirements? ☒ Yes ☐ No
- 4) Does this proposal comply with floodplain and local zoning requirements? ☒ Yes ☐ No

Estimated Cost and Funding Source:

\$300,000 - \$880,000; Funding sources from stated, federal acquisition funds, trout stamp fund, force account funds.

Time Schedule:

1981 - 2000

EXISTING ENVIRONMENT

1) Physical (Topography-soils-water-air-wetland types)

The watershed topography is relatively hilly and rolling. The soil types range from sand to sandy loam. These soils readily allow water from precipitation (annually about 30") to percolate into the ground and become part of the ground water system. This continual recharge of ground water reserves account for the spring flow in and along the stream resulting in fairly stable stream flows.

2) Biological

a) Flora See attached maps for general cover types. Upland timber types include black oak, with some red and white oak. Under brush is composed of hazelbrush, blueberry, raspberry young oak and cherry brush. Aspen are found near low areas within the oak type. Lowland timber types include Tamaraks, elm & ash. About 60 acres of red pine plantation is present. Approximately 180 acres of fields are sharecropped for agricultural products & to provide food patches for wildlife. Marsh areas are of the grassy, sedge type to woody marsh areas with tag alder as the dominant species.

b) Fauna Principal fish species: Brown and brook trout, common sucker, hogsucker, muddler, common shiner, brook lamprey, golden shiner, johnny darter, dace and creek chub. Amphibians - Leopard and green frogs. Turtle species documented as present are snapper and painted. Game and furbearers - deer, squirrel, cottontail rabbits, ruffed grouse, puddle ducks, coon muskrate, fox, beaver, otter and mink. A variety of non-game birds and animals inhabit the area both seasonally and permanently.

3) Social A rural community setting of Central Wisconsin. A general farming area with dairy husbandry, cash crops and truck crops the primary agricultural products. Pine plantations and Christmas tree plantings interspersed throughout the area.

4) Economic Local communities (populations 300-2000) with light industry. A highly developed region of irrigation farming for perishable cash crops. The tourist industry contributes heavily to the economy of the area.

5) Other (include archaeological, historical, etc.) The state Historical Society reports that the fishery area in question has not been surveyed. For properties of historical or architectural features. Before any significant ground disturbing activities take place, the dept. will consult with the Historical Society to determine whether an archeological survey is necessary.

PROPOSED ENVIRONMENTAL CHANGE

1) Manipulation of Terrestrial Resources (include quantities – sq. ft., cu. yds., etc.)

Vegetative manipulations on approximately 4.5 miles of stream to encourage marsh-meadow type growth at the stream edge. Maintenance of property line fences, 16 parking lots and boundary posting of 1300 acres will be a continuing program. Two snowmobile trails will continue to be maintained. Wildlife management actions that will be considered include expanding food and cover by planting, thinning, timber cutting and sharecropping on lands where benefit would be expected. About 180 acres of land will be sharecropped to provide food patches and nesting cover where appropriate.

2) Manipulation of Aquatic Resources (include quantities – cfs, acre feet, MGD, etc.)

Install instream devices (bank cover, rock wings, half logs, bank rip-rap) throughout approximately 4 miles of stream to improve habitat conditions for trout species. Plant 1900 yearling age Brown trout annually in Class II portions of Willow Creek to supplement nature reproduction and provide a satisfactory sport fishery.

3) Structures

No physical structures (buildings, shelters etc.) are anticipated.

4) Other

Actions on this property will include maintenance of signs, periodic issuance of fuel wood permits and limited harvest of oak lumber as needed by area stream habitat development and improvement. None of these activities involve environmental change beyond present management practices.

5) Attach maps, plans and other descriptive material as appropriate (list)

1. Property Boundary Maps showing ownership
2. Existing and Planned Development Map
3. General Cover Map

PROBABLE ADVERSE AND BENEFICIAL IMPACTS (Include Indirect and Secondary Impacts)

1) Physical Impacts

No long term impact should result from proposed actions on the upland areas. Improvement work associated with the stream will result in stabilizing the stream banks, retarding erosion, providing cover for trout species, improving the environment for a variety of insect life (mayfly, stonefly, caddisfly). The area will remain aesthetically pleasing.

2) Biological Impacts

Planned action will result in a diversity of plant and animal species. Both on upland areas and in the aquatic environment.

3) Socioeconomic Impacts

a) Social

The availability of this open-space public hunting and fishing area to the general public will have a beneficial social impact. Outdoor activities are good for the body, mind and soul of man.

b) Economic

Use of the property by hunters, anglers, and non-consumptive users will have positive effects on the areas recreational economy by creating demand for overnight accommodations, restaurants, and other business related services and goods.

4) Other (include archaeological, historical, etc.; if none, so indicate.)

None known

PROBABLE ADVERSE IMPACTS THAT CANNOT BE AVOIDED

Noise and short term air pollution will result from the use of motorized equipment while carrying out the proposed actions. Aesthetics will suffer on a short term on projects involving vegetative manipulations along the stream. In just a couple of years these stream management project areas will revegetate and provide aesthetic settings that will be equal to the original condition.

RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The cumulative effects of the proposed actions will have a positive effect on the maintenance of present user-levels, preferred vegetation types and result in maintaining harvestable populations of fish, game and fur species as well as maintain preferred habitat types for ~~new~~ game species.

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES IF ACTION IS IMPLEMENTED

1) Energy

Fossil fuel loss associated with protection, maintenance and improvement actions that are proposed. This is a irretrievable committment of fossil fuel resources.

2) Archaeological and historic features or sites

No known archaeological or historic features or sites will be affected by the proposed project actions.

3) Other

None

ALTERNATIVES (No Action-Enlarge-Reduce-Modify-Other Locations and/or Methods. Discuss and describe fully with particular attention to alternatives which might avoid some or all adverse environmental effects.)

DO NOTHING:

Subdivisions would eventually result on suitable stream frontage within the project boundary and trespass restrictions would deny the general public of suitable fishing frontage and access sites along a popular navigable waterway.

Riparian owners have little incentive to maintain or improve habitat conditions. Private alterations of the environment are usually based on personal short term human monetary gains and desires and in a lot of instances these actions are not compatible with long range resource management goals.

Habitat preservation and improvement activities such as stream bank rip-rap, instream device construction, stream bank vegetative control, alleviating chronic upland erosion problems are expensive and private landowners generally never get the needed work done. The end result leads to a general deterioration of a variety of habitat types.

Past investments in land acquisition and development could not be adequately protected because of disjointed land ownerships. The entire system must be considered and in some way controlled to protect, maintain and improve it for future generations.

The open marsh meadow type stream edge will through plant succession revert to brush, degrading the stream habitat for trout by reducing bank undercuts, pool cover and materially reduce invertebrate food production. Dead and dying trees will fall into the waterway destroying habitat and cause difficult fishing conditions. Habitat conditions in the lower reaches of the system could deteriorate to the point where trout would no longer survive.

A do nothing approach would mean increased pressure and public use of the existing areas under public ownership. Future users would find the present area over crowded and the quality of the outdoor experience reduced.

EXPAND THE PROJECT

The long range goal of public ownership of all lands within the original approved property boundary (established in 1953) remains a desirable objective. This master plan will recommend that acreage goals be increased commensurate with the future expanding state wide acreage goals and funding sources necessary to accommodate the projected increases in the demand for recreational opportunity. Public ownership of lands is the one sure way of providing reasonable cost recreational opportunities for the majority of the states citizens.

REDUCE THE PROJECT

Attainment of goals and objectives would be impossible if the area was reduced. This would be contrary to this agencies major function of preserving and perpetuating renewable resources and providing user opportunities associated with these resources.

EVALUATION (Discuss each category. Attach additional sheets and other pertinent information if necessary.)

- 1) As a result of this action, is it likely that other events or actions will happen that may significantly affect the environment? If so, list and discuss. (Secondary effects)

No events or actions resulting from this master plan are likely to occur which would significantly affect the environment. Assuring that public lands are models of sound resource management might rub off on private riparian owners to follow our example.

- 2) Does the action alter the environment so a new physical, biological or socio-economic environment would exist? (New environmental effect)

The proposed actions will not alter the environment to the extent that any new physical, biological, or socio-economic environment would result.

- 3) Are the existing environmental features that would be affected by the proposed action scarce, either locally or statewide? If so, list and describe. (Geographically scarce)

No

- 4) Does the action and its effect(s) require a decision which would result in influencing future decisions? Describe. (Precedent setting)

The actions proposed are the best known to manage the renewable resources involved. All actions are tried and proven effective in maintaining or improving the principal life forms associated with the project area.

- 5) Discuss and describe concerns which indicate a serious controversy? (Highly controversial)

Trout stream habitat improvement is an excepted technique in the management of this resource. The draft copy of this master plan will be reviewed by local, state and federal agencies. No conflicts are anticipated.

- 6) Does the action conflict with official agency plans or with any local, state or national policy? If so, how? (Inconsistent with long-range plans or policies)

A local public informational meeting on the master plan was held on May 11, 1981. Those in attendance were supportive of the overall plan presented. State and federal agencies will have a chance to comment. No significant conflicts with any agency is known to exist.

- 7) While the action by itself may be limited in scope, would repeated actions of this type result in major or significant impacts to the environment? (Cumulative impacts)

It is the policy of the Natural Resources Board that all department properties with substantial public interest have master plans developed. Therefor, more such plans will be drawn up in the future.

- 8) Will the action modify or destroy any historical, scientific or archaeological site?

No

- 9) Is the action irreversible? Will it commit a resource for the foreseeable future? (Foreclose future options)

This master plan will commit the resources of the Willow Creek fishery area to the management activities described. It does not foreclose future options as there exists the avenue of reassessment of the plan and introducing additional actions through presentation of such revised actions through the Department of Natural Resources Board.

- 10) Will action result in direct or indirect impacts on ethnic or cultural groups or alter social patterns? (Socio-cultural impacts)

No

- 11) Other

None

LIST OF AGENCIES, GROUPS AND INDIVIDUALS CONTACTED REGARDING THE PROJECT #1190
include DNR Personnel and Title

Date	Contact	Comments
Will go out for 45 day review period	Waushara County Planning Office County & township Gov't. State Geologist Conservation Congress State Historical Society Wild Resources Advisory Council U.S. Fish & Wildlife Service East-Central Regional Planning Commission	Modifications resulting from the input solicited of these agencies will be incorporated into the master plan

RECOMMENDATION

EIS Not Required ☒

Analysis of the expected impacts of this proposal is of sufficient scope and detail to conclude that this is not a major action which would significantly affect the quality of the human environment. In my opinion therefore, an environmental impact statement is not required before the Department undertakes this action.

Refer to Office of the Secretary ☐

Major and Significant Action: Prepare EIS ☐

Additional factors, if any, affecting the evaluator's recommendation:

The Willow Creek Fishery Area Master Plan describes a management plan designed to assure continued use levels of those resources and associated benefits that are consistent with the capabilities of the property.

No significant development or changes in present land-uses are anticipated and as a result, it is the opinion of the evaluator that no environmental impact statement is required.

However, no set of indicators in a complex situation can be combined for a total answer to a question without an examination of external forces that act on the subject in question.

SIGNATURE OF EVALUATOR

Michael J. Preminger

DATE

5/17/81

CERTIFIED TO BE IN COMPLIANCE WITH WEPA

DISTRICT OR BUREAU DIRECTOR (OR DESIGNEE)

DATE

APPROVED (if required by Manual Code)

DIRECTOR, BEI

DATE

11/15/82

no comments received

This decision is not final until approved by the appropriate Director and/or Director, BEI.

*photocopy this page Preminger Fassbender
Hacker Addis Nicolson*

